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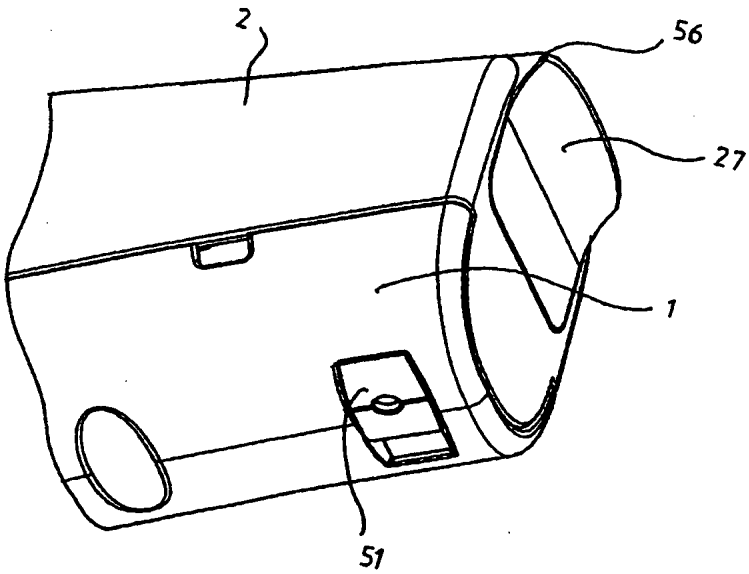

(57) Abstract

The invention relates to a hearing aid comprising a housing, an amplifier within the housing and a battery as a power supply to the amplifier, the battery being placed in a battery drawer, which is mounted pivotally, where means are provided for disconnecting the power supply to the amplifier when the battery drawer is pivoted. The hearing aid according to the invention is characterized in that the battery drawer comprises a protruding part which when the housing is pressed towards a surface and the protruding part is in contact with the surface may force the battery drawer to pivot and to connect or disconnect, respectively, the power supply to the amplifier.

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TITLE

A hearing aid

BACKGROUND OF THE INVENTION

The invention relates to a hearing aid comprising a housing, an amplifier within the housing and a battery as a power supply to the amplifier, the battery being placed in a battery drawer, which is mounted pivotally, where means are provided for disconnecting the power supply to the amplifier when the battery drawer is pivoted.

The handling of such hearing aids is cumbersome for many hearing aid users especially those suffering from rheumatism and arthritis. The lack of ability to handle the power disconnecting mechanism may lead to a situation where the hearing aid is turned on although this is not used, e.g. during the night. This of course leads to increased and unnecessary battery consumption.

The objective of the present invention is to provide a hearing aid of the above-mentioned type, which allows more users to handle the connecting and disconnecting mechanism of a hearing aid.

SUMMARY OF THE INVENTION

The objective of the invention is achieved by means of a hearing aid of the above mentioned type, which comprises battery drawer comprises a protruding part which when the housing is pressed towards a surface and the protruding part is in contact with the surface may force the battery drawer to pivot and to connect or disconnect, respectively, the power supply to the amplifier.

As the user now do not need to manipulate the mechanism itself but only need to hold the housing which has a significantly larger volume it is possible for a

larger part of the users to handle the on/off mechanism of the hearing aid. This leads to a reduction of battery consumption and hence to a better economy in use of the hearing aid.

In a preferred embodiment the hearing aid according to the invention comprises comprising a battery drawer locking element which allows the pivoting to disconnect the power supply.

The invention will be described more detailed in the following with reference to the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a hearing aid according to the invention;

FIG. 2 is an exploded perspective view of the hearing aid shown in FIG. 1;

FIG. 3 is a front view of the housing;

FIG. 4 is a side view of a locking element;

FIG. 5 is a side view of the battery drawer;

FIG. 6 is a view showing the battery drawer in an partly open position, where the power supply has been disconnected;

DESCRIPTION OF THE PREFERRED EMBODIMENT

From FIG. 1 a hearing aid appears, which comprises a housing divided into two shell parts, a first shell part 1 and a second shell part 2. At the upper end of the housing a hook is mounted in an adapter part. An acoustic inlet opening 10 appears as well as a volume control 20, an activating button 23 and a

battery drawer 27. An aperture 38 for accessing a battery terminal appears. The protruding part 56 for opening the battery drawer and breaking the power supply appears clearly.

From FIG. 2 an exploded view of the hearing aid shown in FIG. 1 appears. The hook 3 comprises a circumferential recess 4 at the coupling end. It appears that the hook is mounted in an adapter part 5, which is mounted in an aperture in the first shell part 1 and is held in place by means of two flexible legs 6,7 having at their outer ends barbs cooperating with internal shoulders around the aperture 8 in the first shell part. The opposite end of the adapter 5 comprises four flexible wall parts separated by incisions and having internal barbs adapted to cooperate with the recess 4 in the hook 3.

The first shell part comprises an acoustic inlet channel which at the outer end is branched into two opposed acoustic inlet openings 10,11 located at the sides of the first shell part. A thin protruding wall 12 surrounds each inlet opening. At the inner end the channel faces a cavity 13 for holding a microphone suspension 14 which holds the microphone 15. Beneath the cavity 13 for holding the microphone suspension and the microphone the above-mentioned aperture 8 for the hook adapter is situated. A receiver 17 is adapted to be placed in a receiver suspension 16, which is inserted into the aperture and into the adapter. The outer end of the suspension forms a seal against the hook 3 when this is mounted in the hook adapter.

In the first shell part holding means are provided for receiving and holding a circuitry board 18 which on its side holds an amplifier 19, a volume control 20, a telecoil (not visible), programming terminals 21 and a switch 22 adapted to be activated by the activating button 23. These holding means comprise holding slots 33,34 (see FIG. 3) for the end areas of the board at one side edge of this. This means that the board is fixed in transversal as well as longitudinal translation and may only be inserted and removed in a direction parallel to the board plane. Between the slots apertures 49 for the programming terminals on

the circuitry board are provided for allowing access to these from the outer surface of the housing. At the end of the first shell part a locking recess 50 is provided. A recess 29 is provided for receiving a terminal wall 30 being provided with terminals 31,32 for contacting the battery and further terminal 36,37 for external access through apertures 38,39.

The second shell part comprise apertures 24 for receiving and surrounding the protruding walls 12 around the acoustic inlets 10,11 on the first shell part. At the opposite end of the second shell part a locking arm 25 having a barb 26 is provided. This locking arm 25 and the barb 26 together with the apertures 24 at the opposite end of the second shell part and the protruding wall 12 and the locking recess 50 on the first shell part forms the releasable locking means of the two shell parts. In the second shell part the battery drawer is mounted to be pivotable around a shaft 28. The two shell parts may be dismantled using a tool which comprises two arms adapted to be inserted between the first and the second shell part in the area where these are mutually connected at the acoustic inlets. Upon insertion the second shell part will be expanded to a state where this may be lifted away from the protruding wall parts and hereby may be released from the first shell part.

From FIG. 3 the housing appears in a position where the locking element 51 is clearly visible. The locking element comprises a blind hole for insertion of an object for sliding the locking element sideways.

From FIG. 4 the locking element appear separately. The locking element comprises two legs 52,53, where one of these 52 has a barb 54for interlocking the locking element with the housing in a slidable manner.

From FIG. 5 the battery 27 drawer appears. The battery drawer comprises a tap 55 protruding in a direction perpendicular to the axis of rotation of the battery drawer. Furthermore the protruding part 56 appears clearly, which when the hearing aid is moved towards a surface and the protruding part abuts the

surface will force the battery drawer into an open position and hence break the power supply.

From FIG. 6 the battery drawer appears in a position where this has been pivoted and a tap or flap on this is introduced between the battery and at least one of the contact elements in the hearing aid housing. It appears that the protruding part in this position is almost aligned with the bottom part of the hearing aid housing.

Starting from the position of the battery drawer in FIG. 6 the battery drawer can easily be pivoted into a closed position where the power supply is reestablished. Simply forcing the protruding part against a surface does this. Again the movement is appropriate for person having reduced ability of using their hands and fingers.

CLAIMS

1. A hearing aid comprising a housing, an amplifier within the housing and a battery as a power supply to the amplifier, the battery being placed in a battery drawer, which is mounted pivotally, where means are provided for disconnecting the power supply to the amplifier when the battery drawer is pivoted, characterized in that the battery drawer comprises a protruding part which when the housing is pressed towards a surface and the protruding part is in contact with the surface may force the battery drawer to pivot and to connect or disconnect, respectively, the power supply to the amplifier.

2. A hearing aid according to claim 1, where the protruding part is located at the rear part of the hearing aid.

3. A hearing aid according to claim 1 or 2, characterized in further comprising a battery drawer locking element which allows the pivoting to disconnect the power supply.

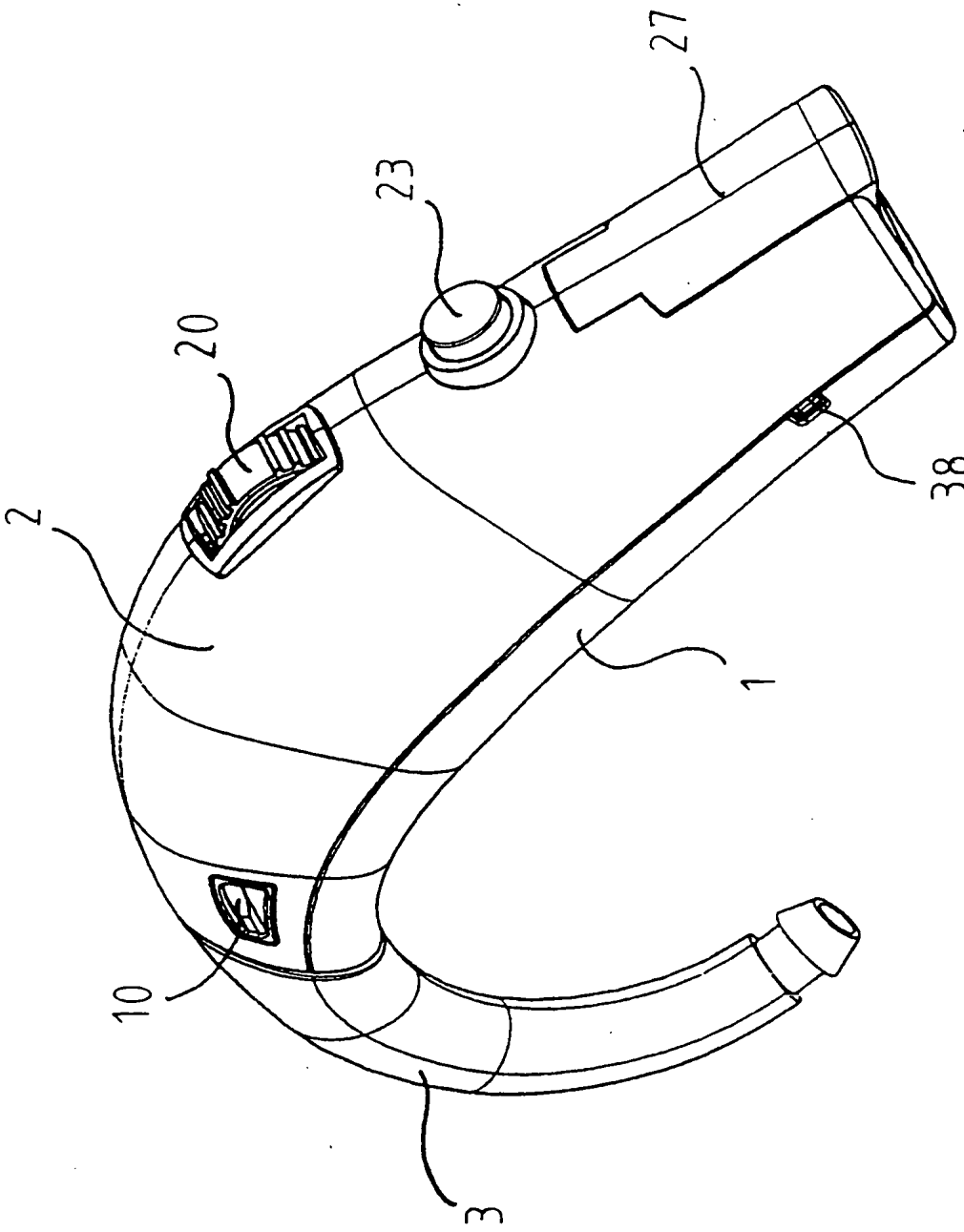


FIG. 1

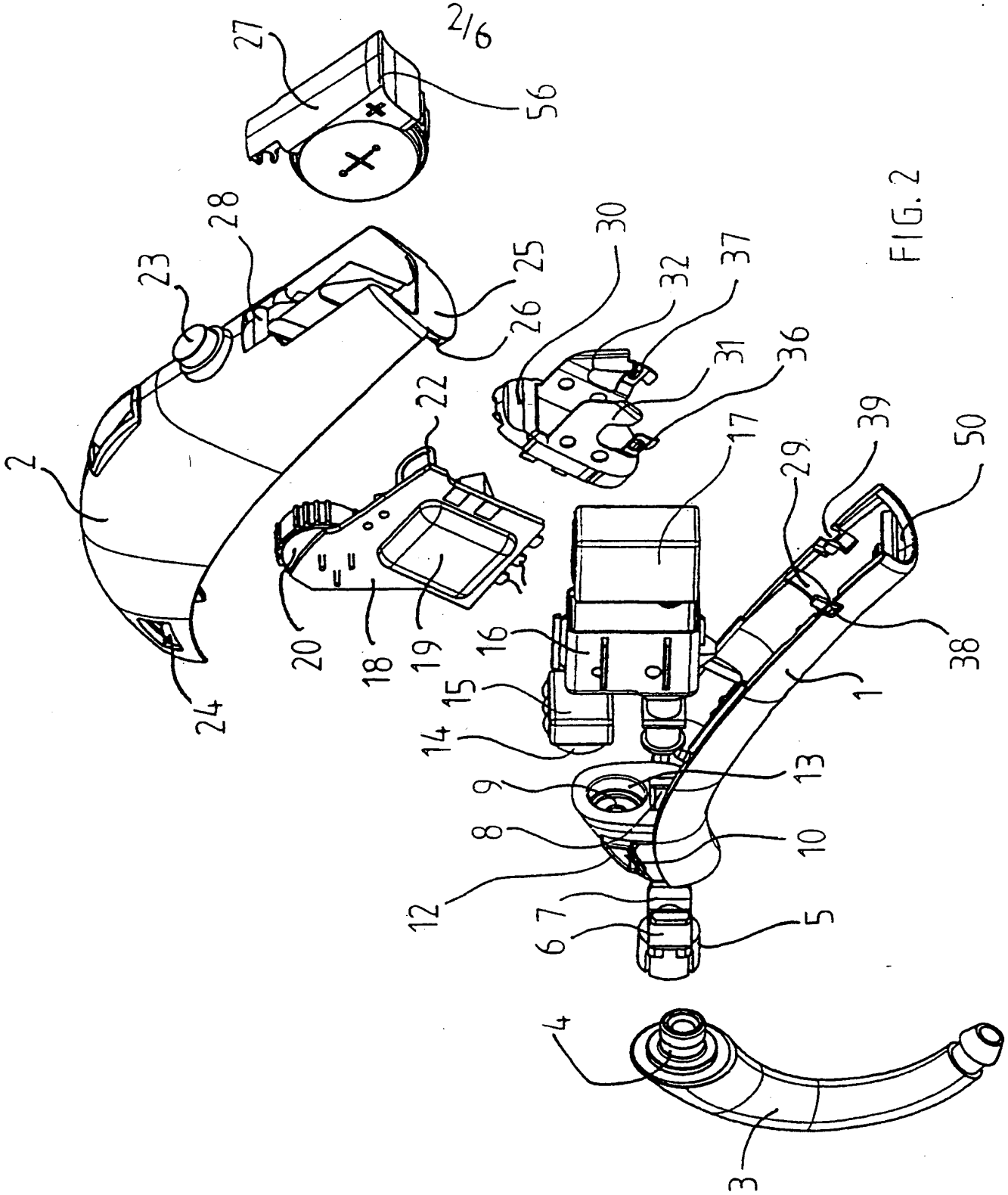


FIG. 2

FIG. 3

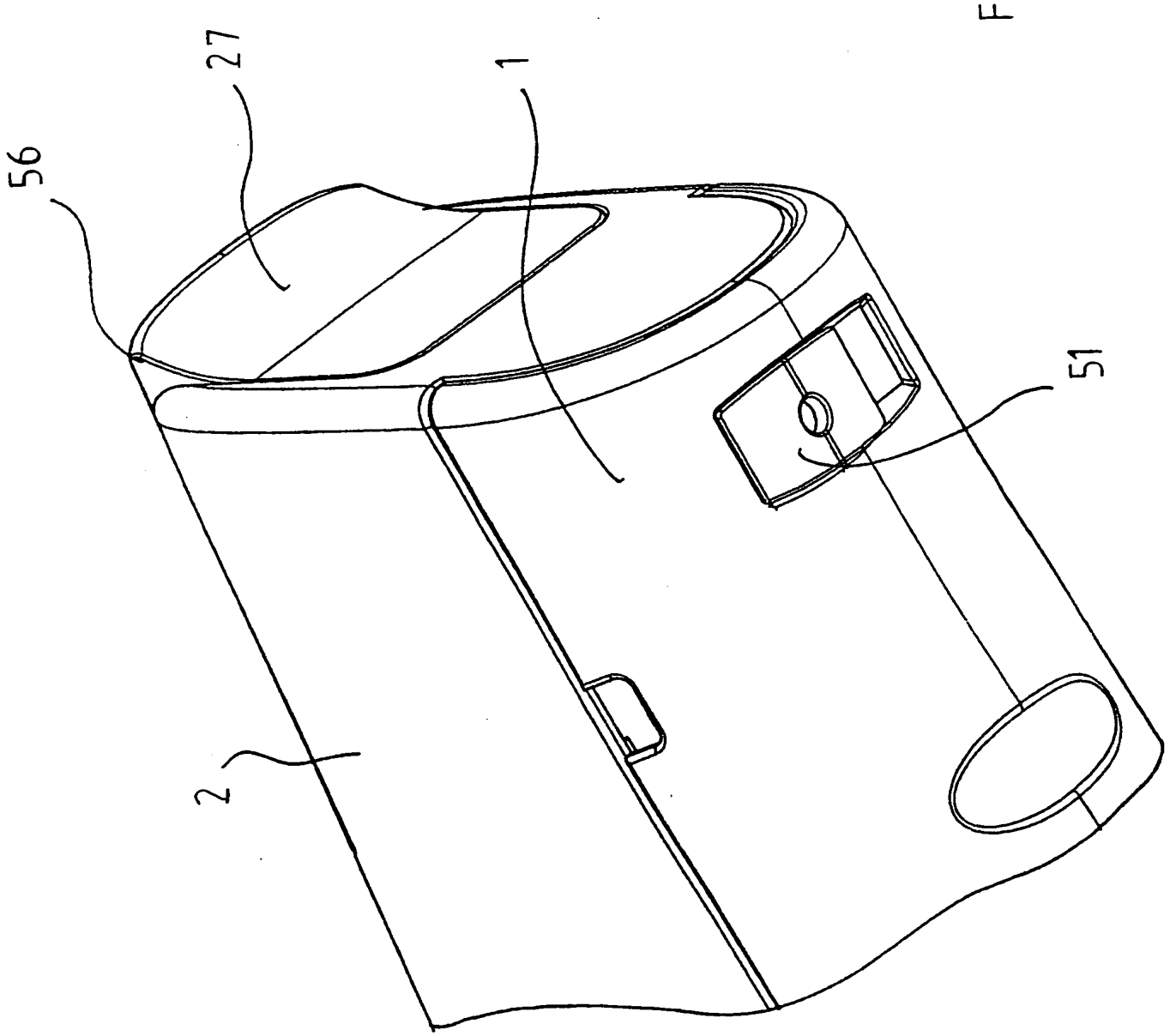
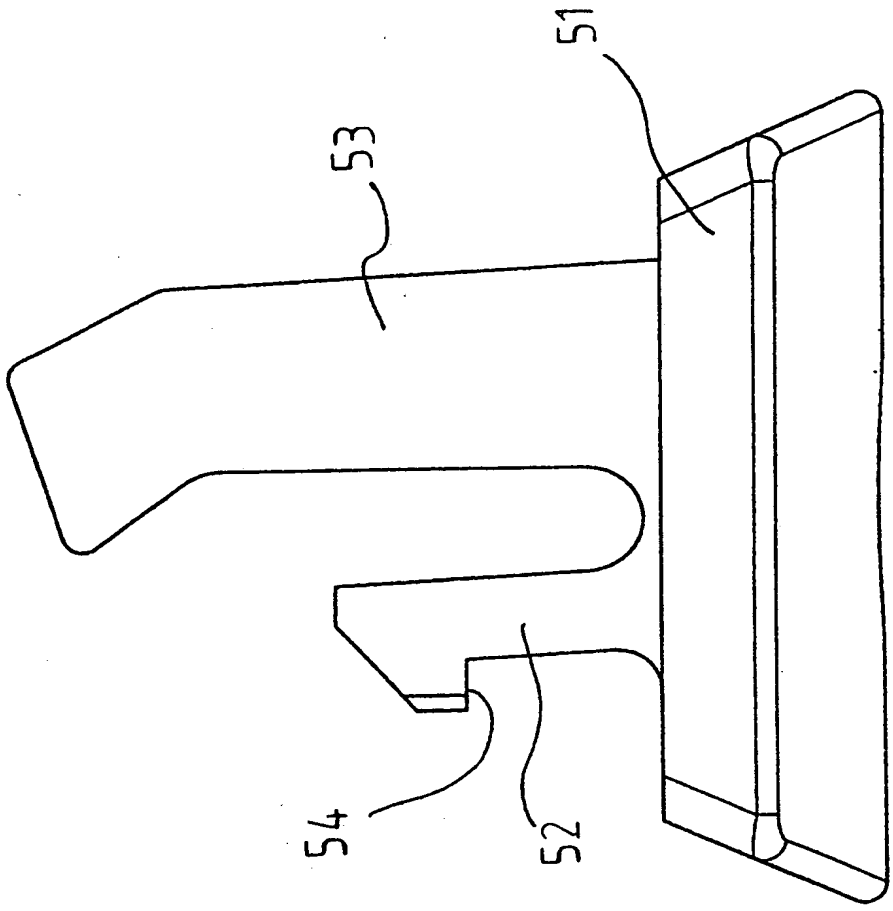


FIG. 4



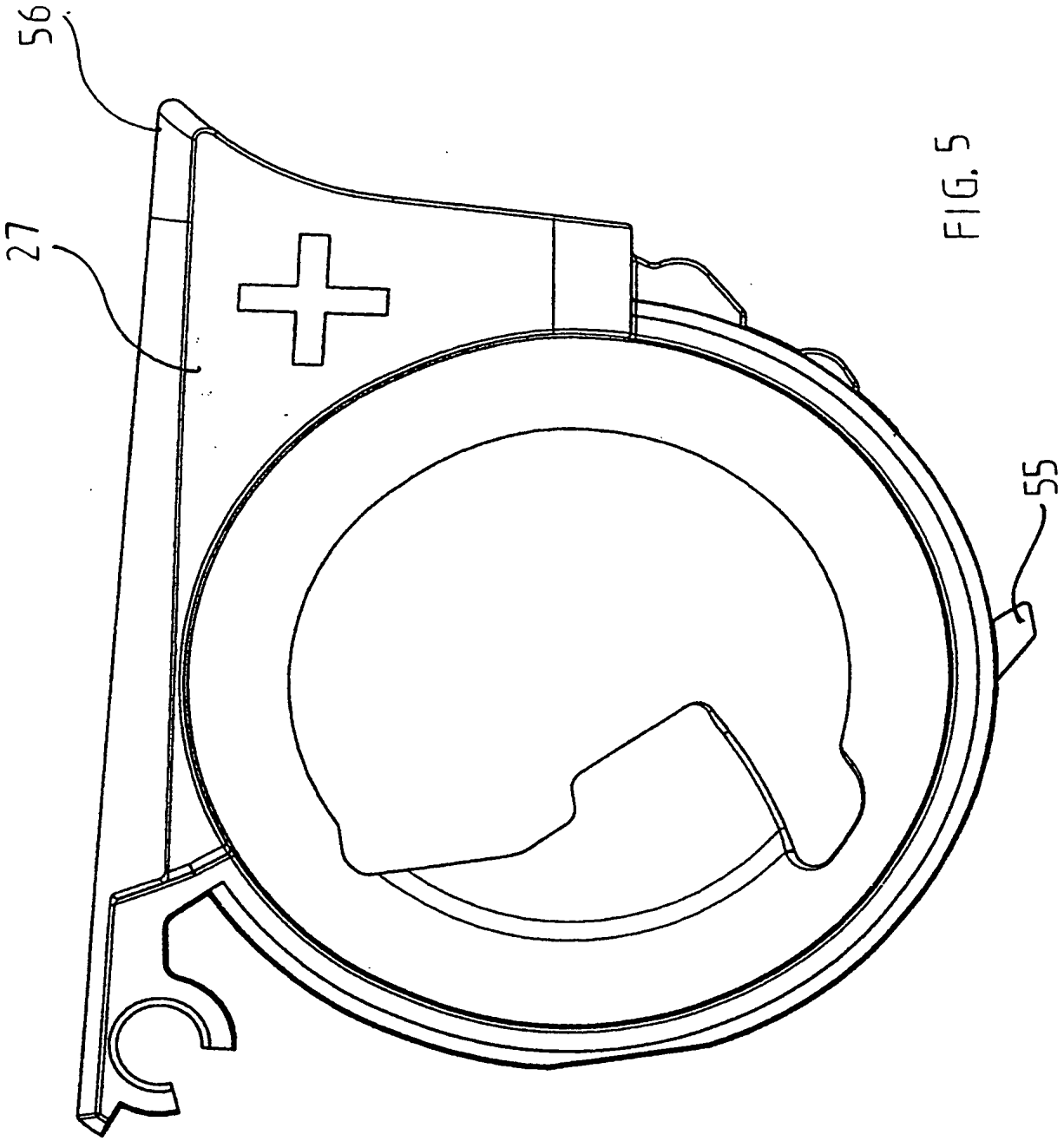


FIG. 5

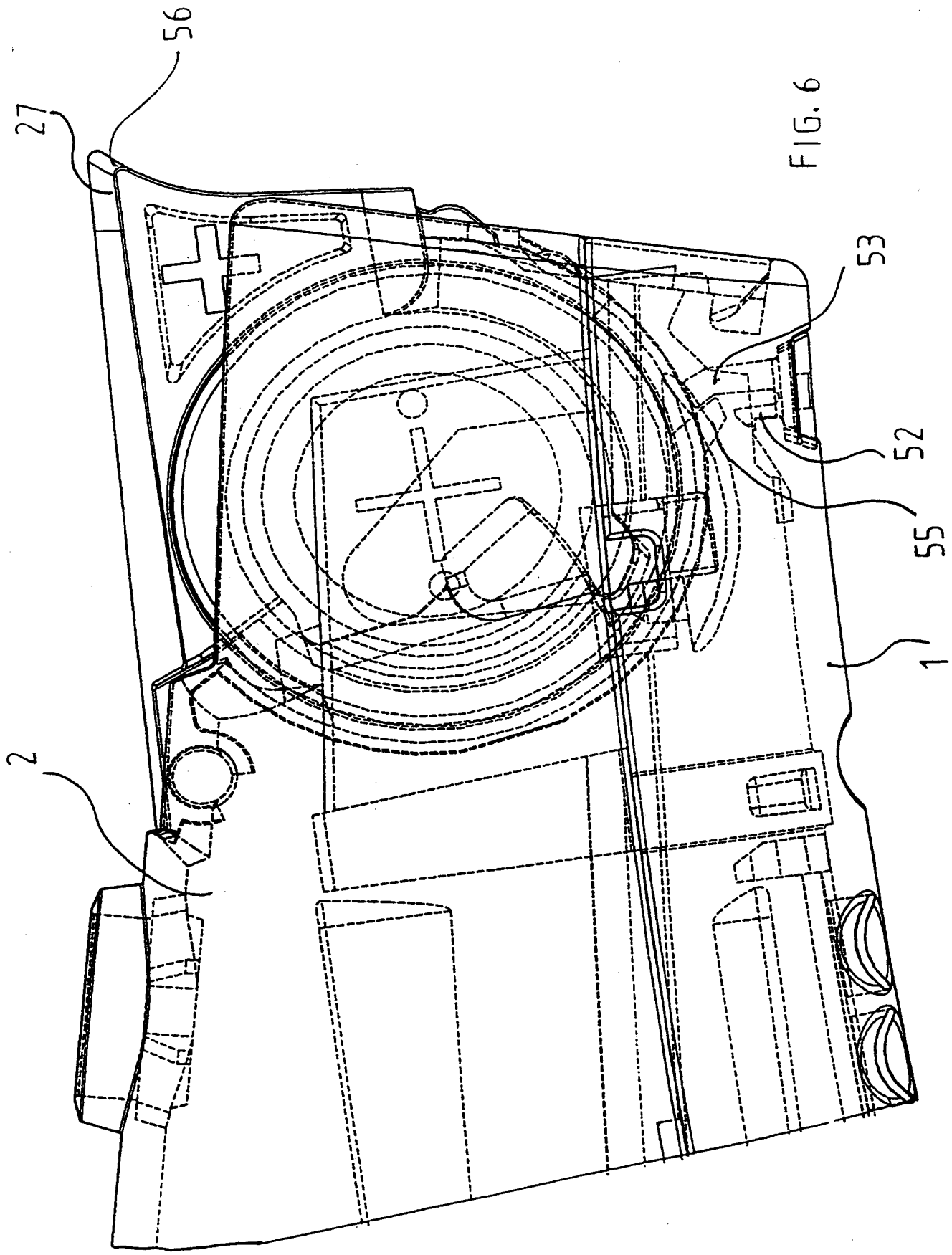


FIG. 6